26. (New) A nucleic acid molecule comprising a nucleic acid sequence selected from any of:

(a) SEQ ID Nos: 1 to 26;

(b) a sequence which encodes a polypeptide encoded by any one of SEQ ID Nos: 1 to 26;

(c) a sequence comprising at least 38 consecutive nucleotides from any one of the nucleic acid sequences of (a) and (b); and

(d) a sequence which encodes a polypeptide which is at least 75% identical in amino acid sequence to any one of the polypeptides encoded by SEQ ID Nos: 1 to 26.

27. (New) A nucleic acid molecule comprising a nucleic acid sequence which is anti-sense to the nucleic acid molecule of claim 25.

28. (New) A nucleic acid molecule comprising a nucleic acid sequence which encodes a fusion protein, said fusion protein comprising a polypeptide encoded by a nucleic acid molecule according to claim 25 and a second polypeptide.

29. (New) The nucleic acid molecule of claim 28 wherein the second polypeptide is a heterologous signal peptide.

30. (New) The nucleic acid molecule of claim 28 wherein the second polypeptide has adjuvant activity.

31. (New) A nucleic acid molecule according to claim 25, operatively linked to one or more expression control sequences.

32. (New) A vaccine comprising a vaccine vector and at least one first nucleic acid selected from any of:

(i) SEQ ID Nos: 1 to 26;

(ii) a nucleic acid sequence which encodes a polypeptide encoded by any one of SEQ ID Nos: 1 to 26;

(iii) a nucleic acid sequence comprising at least 38 consecutive nucleotides from any one of the nucleic acid sequences of (i) and (ii);

(iv) a nucleic acid sequence which encodes a polypeptide which is at least 75% identical in amino acid sequence to the polypeptide encoded by any one of SEQ ID Nos: 1 to 26;

(v) a nucleic acid sequence which encodes a polypeptide whose sequence is set forth in any one of SEQ ID Nos: 27 to 45;

(vi) a nucleic acid sequence which encodes an immunogenic fragment comprising at least 12 consecutive amino acids from any one of SEQ ID Nos: 27 to 45; and

(vii) a nucleic acid sequence which encodes a polypeptide as defined in (v) or an immunogenic fragment as defined in (vi) which has been modified without loss of immunogenicity, wherein said modified polypeptide or fragment is at least 75% identical in amino acid sequence to the corresponding polypeptide of (v) or the corresponding fragment of (vi);

wherein each first nucleic acid is capable of being expressed.

33. (New) A vaccine comprising a vaccine vector and at least one first nucleic acid encoding a fusion protein, wherein the fusion protein comprises:

(a) a first polypeptide selected from any of:

(i) a polypeptide encoded by any one of SEQ ID Nos: 1 to 26;

(ii) a polypeptide encoded by a nucleic acid sequence comprising at least 38 consecutive nucleotides from any one of SEQ ID Nos: 1 to 26;

(iii) a polypeptide which is at least 75% identical in amino acid sequence to the polypeptide encoded by any one of SEQ ID Nos: 1 to 26;

(iv) a polypeptide whose sequence is set forth in any one of SEQ ID Nos: 27 to 45;

(v) an immunogenic fragment comprising at least 12 consecutive amino acids from any one of SEQ ID Nos: 27 to 45; and

(vi) a polypeptide as defined (iv) or an immunogenic fragment as defined in (v) which has been modified without loss of immunogenicity, wherein said modified polypeptide or fragment is at least 75% identical in amino acid sequence to the corresponding polypeptide of (iv) or the corresponding fragment of (v); and

(b) a second polypeptide;

wherein each first nucleic acid is capable of being expressed.

34. (New) The vaccine of claim 33 wherein the second polypeptide is a heterologous signal peptide.

35. (New) The vaccine of claim 33 wherein the second polypeptide has adjuvant activity.

36. (New) The vaccine of claim 32 wherein each first nucleic acid is operatively linked to one or more expression control sequences.

37. (New) A vaccine according to claim 32 wherein each first nucleic acid is expressed as a polypeptide, and wherein the vaccine comprises a second nucleic acid encoding an additional polypeptide which enhances the immune response to the polypeptide expressed by the first nucleic acid.

38. (New) The vaccine of claim 37 wherein the second nucleic acid encodes an additional *Chlamydia* polypeptide.

39. (New) A pharmaceutical composition comprising a nucleic acid according to claim 25 and a pharmaceutically acceptable carrier.

40. (New) A pharmaceutical composition comprising a vaccine according to claim 32 and a pharmaceutically acceptable carrier.

41. (New) A unicellular host transformed with the nucleic acid molecule of claim 31.

42. (New) An isolated nucleic acid probe of 5 to 100 nucleotides which hybridizes under stringent conditions to any one of nucleic acid molecules of SEQ ID Nos: 1 to 26, or to a complementary or anti-sense sequence of said nucleic acid molecule.

43. (New) A primer of 10 to 40 nucleotides which hybridizes under stringent conditions to any one of nucleic acid molecules of SEQ ID Nos: 1 to 26, or to a homolog or complementary or anti-sense sequence of said nucleic acid molecule.

44. (New) A polypeptide encoded by a nucleic acid sequence according to claim 26.

45. (New) A polypeptide comprising an amino acid sequence selected from any of:

(a) SEQ ID Nos: 27 to 45;

(b) an immunogenic fragment comprising at least 12 consecutive amino acids from a polypeptide of (a); and

(c) a polypeptide of (a) or (b) which has been modified without loss of immunogenicity, wherein said modified polypeptide is at least 75% identical in amino acid sequence to the corresponding polypeptide of (a) or (b).

46. (New) A fusion protein comprising a polypeptide of claim 44 and a second polypeptide.

47. (New) The fusion protein of claim 46 wherein the second polypeptide is a heterologous signal peptide.

48. (New) The fusion protein of claim 46 wherein the second polypeptide has adjuvant activity.

49. (New) A method for producing a polypeptide, comprising the step of culturing a unicellular host of claim 41 and recovering the resultant polypeptide.

50. (New) An antibody against the polypeptide of claim 44.

51. (New) A vaccine comprising at least one first polypeptide selected from any of:

(i) a polypeptide encoded by any one of SEQ ID Nos: 1 to 26;

(ii) a polypeptide encoded by a nucleic acid sequence comprising at least 38 consecutive nucleotides from any one of SEQ ID Nos: 1 to 26;

(iii) a polypeptide which is at least 75% identical in amino acid sequence to the polypeptide encoded by any one of SEQ ID Nos: 1 to 26;

(iv) a polypeptide whose sequence is set forth in any one of SEQ ID Nos: 27 to 45;

(v) an immunogenic fragment comprising at least 12 consecutive amino acids from any one of SEQ ID Nos: 27 to 45; and

(vi) a polypeptide as defined in (iv) or an immunogenic fragment as defined in (v) which has been modified without loss of immunogenicity, wherein said modified polypeptide or

fragment is at least 75% identical in amino acid sequence to the corresponding polypeptide of (iv) or the corresponding fragment of (v).

52. (New) A vaccine comprising at least one fusion protein, wherein the fusion protein comprises:

(a) a first polypeptide selected from any of:

(i) a polypeptide encoded by any one of SEQ ID Nos: 1 to 26;

(ii) a polypeptide encoded by a nucleic acid sequence comprising at least 38 consecutive nucleotides from any one of SEQ ID Nos: 1 to 26;

(iii) a polypeptide which is at least 75% identical in amino acid sequence to the polypeptide encoded by any one of SEQ ID Nos: 1 to 26;

(iv) a polypeptide whose sequence is set forth in any one of SEQ ID Nos: 27 to 45;

(v) an immunogenic fragment comprising at least 12 consecutive amino acids from any one of SEQ ID Nos: 27 to 45; and

(vi) a polypeptide as defined (iv) or an immunogenic fragment as defined in (v) which has been modified without loss of immunogenicity, wherein said modified polypeptide or fragment is at least 75% identical in amino acid sequence to the corresponding polypeptide of (iv) or the corresponding fragment of (v); and

(b) a second polypeptide.

53. (New) The vaccine of claim 52 wherein the second polypeptide is a heterologous signal peptide.

54. (New) The vaccine of claim 52 wherein the second polypeptide has adjuvant activity.

55. (New) A vaccine comprising at least one first polypeptide according to claim 44 and an additional polypeptide which enhances the immune response to the first polypeptide.

56. (New) The vaccine of claim 55 wherein the additional polypeptide comprises a *Chlamydia* polypeptide.

57. (New) A pharmaceutical composition comprising a polypeptide according to claim 44 and a pharmaceutically acceptable carrier.

58. (New) A pharmaceutical composition comprising a vaccine according to claim 51 and a pharmaceutically acceptable carrier.

59. (New) A pharmaceutical composition comprising an antibody according to claim 50 and a pharmaceutically acceptable carrier.

60. (New) A method for preventing or treating *Chlamydia* infection comprising administering to a patient an effective amount of:

(a) a nucleic acid molecule according to claim 26; or

(b) a vaccine comprising a vaccine vector and at least one first nucleic acid according to claim 26; or

(c) a pharmaceutical composition comprising a nucleic acid according to claim 26 and a pharmaceutically acceptable carrier; or

(d) a polypeptide encoded by a nucleic acid sequence according to claim 26; or

(e) an antibody against a polypeptide encoded by a nucleic acid sequence according to claim 26.

61. (New) A method of detecting *Chlamydia* infection comprising the step of contacting a body fluid of a mammal to be tested, with a component selected from any one of:

(a) a nucleic acid molecule according to claim 26;

(b) a polypeptide encoded by a nucleic acid sequence according to claim 26; and

(c) an antibody against a polypeptide encoded by a nucleic acid sequence according to claim 26.

62. (New) A diagnostic kit comprising instructions for use and a component selected from any one of:

(a) a nucleic acid molecule according to claim 26;

(b) a polypeptide encoded by a nucleic acid sequence according to claim 26; and

(c) an antibody against a polypeptide encoded by a nucleic acid sequence according to claim 26.

63. (New) A method for identifying a polypeptide of claim 44 which induces an immune response effective to prevent or lessen the severity of *Chlamydia* infection in a mammal previously immunized with polypeptide, comprising the steps of:

(a) immunizing a mouse with a polypeptide of claim 44; and

(b) inoculating the immunized mouse with *Chlamydia;*

wherein the polypeptide which prevents or lessens the severity of *Chlamydia* infection in the immunized mouse compared to a non-immunized control mouse is identified.